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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,539	03/18/2004	Masataka Kano	1300-000016	5656
27572	7590	05/22/2006	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			ZACHARIA, RAMSEY E	
			ART UNIT	PAPER NUMBER
			1773	
DATE MAILED: 05/22/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/803,539

Applicant(s)

KANO, MASATAKA

Examiner

Ramsey Zacharia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3 and 6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3 and 6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 3 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. The phrase "interposed between a first electrode and a second electrode" on line 3 of claim 3 renders claims 3 and 6 indefinite because it is not clear what is intended to be interposed between the first and second electrodes. Moreover, the phrase "the organic bistable element has a single layer structure comprising an organic thin film the limiter limits current" renders the claims indefinite because it is unclear if the single layer structure includes both the organic thin film and the limiter or just the organic thin film.

#### ***Claim Language***

5. For the purpose of examination, the organic bistable element is taken to have a single-layer structure comprising the organic thin film (and not the limiter). The organic bistable element is taken to be interposed between the first and second electrodes.

***Claim Rejections - 35 USC § 102***

6. Claims 3 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Yang et al. (WO 02/37500 A1).

Yang et al. teach a bistable electrical device that may be used to form a memory device wherein a memory input element is provided for applying voltage to the bistable body (paragraph 0011). The bistable device comprise a first electrode, a second electrode, and a bistable body between the two electrodes (Figure 1 and paragraph 0030). The bistable body may be in the form of a single layer (Figure 1 and paragraph 0033). The bistable body comprises a low conductivity material (paragraph 0033). The low conductivity material may be 2-amino-4,5-imidazoledicarbonitrile (paragraph 0037), which reads on the compound I of the instant claims wherein  $R_1 = -NH_2$  and  $R_2 = R_3 = -CN$ . One of the electrodes is formed by deposition of the electrode material onto a substrate (paragraph 0045). The memory input element or control unit reads on the limiter.

***Response to Arguments***

7. Applicant's arguments filed 16 March 2006 have been fully considered but they are not persuasive.

The applicants argue that Yang et al. do not teach a single-layer bistable structure as claimed but rather a composite layer structure or multiple layer structure.

This is not persuasive for the following reasons. While the bistable body comprises at least two components (i.e. low conductivity material and high conductivity material), the bistable

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body itself is not required to have multiple layers. Figure 1 and 3 of Yang et al. illustrate embodiments in which their bistable body has a single layer (see also discussion in paragraph 0033 of Yang et al.). The instant claims require the bistable element to have a single-layer structure but do not require the single layer to consist of a single component. Therefore, the embodiment illustrated by Figure 1 of Yang et al. in which the bistable body comprises a molecular solution having no distinct phases reads on the claimed single-layer structure as does the embodiment of Figure 3 in which the bistable body comprises a single layer containing nanoparticles or molecular clusters of high conductivity material in a low conductivity matrix.

### *Conclusion*

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (571) 272-1518.

The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney, can be reached at (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**Ramsey Zacharia**  
Primary Examiner  
Tech Center 1700